

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants:	Ingemar Johansson, et al.	§	Group Art Unit:	2654
		§		
Serial No:	09/391,768	§	Examiner:	Armstrong, Angela
		§		
Filed:	September 8, 1999	§	Confirmation No.:	9053
		§		

For: SPEECH CODING WITH COMFORT NOISE VARIABILITY FEATURE FOR  
INCREASED FIDELITY

Via EFS-Web

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313.1450

**CERTIFICATE OF MAILING OR TRANSMISSION**

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Date: June 19, 2006

Pamela S. Newton  
Pamela S. Newton

**PETITION TO WITHDRAW HOLDING OF ABANDONMENT  
UNDER 37 C.F.R. § 1.181 and 1.8(b)**

It is respectfully requested that the above-captioned application be revived and passed to issuance. The application was abandoned by the USPTO for Applicant's alleged failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37). The Applicant contends that the corrected drawings were timely filed.

The facts relating to the abandonment of this application are as follows:

1. A Notice of Draftperson's Patent Drawing Review (PTO-948) objecting to the drawings was issued with an Office Action on February 13, 2002. The Applicant deferred filing formal replacement drawings until claims were allowed.
2. An Office Action dated September 9, 2005 indicated a number of the claims were allowable.
3. On December 7, 2005, the Applicant filed an Amendment in response to the Office Action dated September 9, 2005. This Amendment included eighteen (18)

pages comprising two (2) pages of transmittal letter, ten (10) pages of text, and six (6) sheets of formal replacement drawings marked as "Replacement Sheets". The Amendment was filed electronically via EFS Web. A copy of the Amendment and the EFS Web Acknowledgment Receipt are enclosed.

4. A Notice of Allowability was issued with a Notice of Allowance on December 28, 2005. The Notice of Allowability incorrectly indicated that corrected drawings were required. The Applicant checked the Image File Wrapper (IFW) at the USPTO and found that the corrected drawings were, in fact, in the IFW. Therefore, the Examiner had erred by checking the box on the Notice of Allowability requiring corrected drawings.

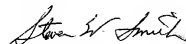
5. On February 9, 2006, the Applicant submitted the Part B – Fee(s) Transmittal to the USPTO via EFS Web. Corrected drawings were not resubmitted since the IFW indicated the USPTO had already received the drawings. A copy of this submittal and the EFS Web Acknowledgment Receipt are enclosed.

6. On May 3, 2006, the USPTO issued a Notice of Abandonment for Applicant's alleged failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37). As noted above, the drawings were timely filed and were in the USPTO IFW at the time the defective Notice of Allowability was issued.

The Applicant respectfully submits that this petition has been timely filed, and the evidence presented herewith is sufficient for the petition to be granted and for the holding of abandonment to be withdrawn.

The undersigned Petitioner has personal knowledge of the facts alleged.

Respectfully submitted,



Steven W. Smith  
Registration No. 36,684

Date: 06-19-2006

Ericsson Inc.  
6300 Legacy Drive, M/S EVR 1-C-11  
Plano, Texas 75024

(972) 583-1572  
steve.xl.smith@ericsson.com

**Acknowledgement Receipt**

The USPTO has received your submission at **12:36:47** Eastern Time on **07-DEC-2005**.

No fees have been paid for this submission. Please remember to pay any required fees on time to prevent abandonment of your application.

**eFiled Application Information**

EFS ID	1000253
Application Number	09391768
Confirmation Number	9053
Title	SPEECH CODING WITH COMFORT NOISE VARIABILITY FEATURE FOR INCREASED FIDELITY
First Named Inventor	INGEMAR JOHANSSON
Customer Number or Correspondence Address	38065
Filed By	Steven Ware Smith/Pam Newton
Attorney Docket Number	34645-446
Filing Date	08-SEP-1999
Receipt Date	07-DEC-2005
Application Type	Utility

**Application Details**

Submitted Files	Page Count	Document Description	File Size	Warnings
05.9272.Response.to.Office.Action.dated.9.9.05.pdf	18		599217 bytes	◆ PASS
		Document Description	Page Start	Page End
		Transmittal letter	1	1
		Transmittal letter	2	2
		Amendment - After Non-Final Rejection	3	18

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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- *Send general questions about USPTO programs to the [USPTO Contact Center \(UCC\)](#).*
- *If you experience technical difficulties or problems with this application, please report them via e-mail to [Electronic Business Support](#) or call 1 800-786-9199.*

December 7, 2005

**Via EFS-Web (Beta)**

Mail Stop AMENDMENT  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

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Date: December 7, 2005

Pamela S. Newton

Re: Patent Application for:  
"SPEECH CODING WITH COMFORT NOISE VARIABILITY FEATURE FOR  
INCREASED FIDELITY"  
Serial No. 09/391,768  
Attorney Docket No. P10991-US2

Dear Sir:

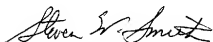
Enclosed for filing please find the following items relating to the above-identified application:

- (1) Amendment Transmittal Letter (1 page);
- (2) Amendment (10 pages); and
- (3) Drawing Replacement Sheets (6 pages).

The commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1379.

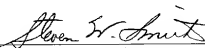
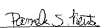
Should you have any questions or comments concerning this matter, please feel free to contact the undersigned at 972/583-1572.

Sincerely,



Steven W. Smith  
Reg. No. 36,684

SWS/psn

<b>AMENDMENT TRANSMITTAL LETTER (Large Entity)</b>				Docket No. <b>P10991-US2</b>	
Applicant(s): Ingemar Johansson, et al.					
Application No. 09/391,768	Filing Date September 8, 1999	Examiner Armstrong, Angela A	Customer No. 27045	Group Art Unit 2654	Confirmation No. 9053
Invention: <b>SPEECH CODING WITH COMFORT NOISE VARIABILITY FEATURE FOR INCREASED FIDELITY</b>					
<u>COMMISSIONER FOR PATENTS:</u>					
Transmitted herewith is an amendment in the above-identified application.					
The fee has been calculated and is transmitted as shown below.					
<b>CLAIMS AS AMENDED</b>					
	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST # PREV. PAID FOR	NUMBER EXTRA CLAIMS PRESENT	RATE	ADDITIONAL FEE
TOTAL CLAIMS	22 -	22 =	0 x	\$50.00	\$0.00
INDEP. CLAIMS	2 -	7 =	0 x	\$200.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					
<b>TOTAL ADDITIONAL FEE FOR THIS AMENDMENT</b>					<b>\$0.00</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <input checked="" type="checkbox"/> No additional fee is required for amendment.  <input type="checkbox"/> Please charge Deposit Account No. 50-1379 in the amount of <b>\$0.00</b>  <input type="checkbox"/> A check in the amount of _____ to cover the filing fee is enclosed.  <input checked="" type="checkbox"/> The Director is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account 50-1379  <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Any additional filing fees required under 37 C.F.R. 1.16.  <input checked="" type="checkbox"/> Any patent application processing fees under 37 CFR 1.17. </div> </div> <div style="width: 35%; text-align: right;"> Dated: <b>12-7-2005</b> </div> </div> <div style="margin-top: 20px;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;">   <div style="text-align: center; font-size: small;">Signature</div> </div> <div style="width: 55%;"> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <div style="text-align: center; font-size: x-small;">CERTIFICATE OF MAILING OR TRANSMISSION</div> <div style="font-size: x-small;">I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the U.S. Patent and Trademark Office, P. O. Box 1450, Alexandria, VA 22313-1450, or being transmitted by the USPTO on the date indicated below.</div> <div style="text-align: center; margin-top: 10px;">   <div style="text-align: center; font-size: x-small;">Signature</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;">Pamela S. Newton</div> <div style="width: 45%; text-align: right;">December 7, 2005</div> </div> <div style="text-align: center; font-size: x-small; margin-top: 5px;">Depositor's Name and Date</div> </div> </div> </div> </div>					


CC:

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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For: SPEECH CODING WITH COMFORT NOISE VARIABILITY  
FEATURE FOR INCREASED FIDELITY

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Date:	December 7, 2005
	
Pamela S. Newton	

Dear Sir:

**AMENDMENT**

In response to the Office Action dated September 9, 2005, the Applicants submit the following amendments and remarks.

**SUMMARY OF AMENDMENTS**

1. Formal Replacement Drawings are submitted herewith.
2. Claims 34 and 36 have been amended.
3. A complete list of pending claims begins on page 3 of this paper.
4. Remarks begin on page 9 of this paper.

**IN THE DRAWINGS**

Six (6) sheets of formal replacement drawings are enclosed herewith. Approval of the replacement drawings is respectfully requested.



## **AMENDMENTS TO THE CLAIMS**

This listing of claims replaces all prior versions and listings of claims in the application.

### **Listing of Claims**

1. (Canceled)
2. (Previously Presented) The method of Claim 38, wherein the background noise parameter is a spectrum parameter.
- 3-4. (Canceled)
5. (Previously Presented) The method of Claim 38, wherein the step of calculating variability information includes subtracting the mean value from each background noise parameter value to produce a plurality of deviation values.
6. (Previously Presented) The method of Claim 5, wherein said perturbing step includes selecting one of said deviation values randomly, scaling the randomly selected deviation value by a scale factor to produce a scaled deviation value, and combining the scaled deviation value with one of the comfort noise parameter values to produce one of the perturbed comfort noise parameter values.
7. (Previously Presented) The method of Claim 38, wherein said speech decoder is provided in a radio communication device.
8. (Original) The method of Claim 7, wherein speech decoder is provided in a cellular telephone.
- 9-11. (Canceled)

12. (Previously Presented) The method of Claim 38, wherein the step of calculating variability information includes calculating differences between the mean value and at least some of the background noise parameter values to produce mean-removed values of the background noise parameter.

13. (Previously Presented) The method of Claim 12, wherein the step of calculating variability information includes using the plurality of values of the background noise parameter to calculate filter coefficients, and filtering at least some of the mean-removed values of the background noise parameter according to the filter coefficients.

14. (Previously Presented) The method of Claim 13, wherein the step of calculating variability information includes calculating filter coefficients of an autoregressive predictor filter.

15. (Previously Presented) The method of Claim 38, wherein said variability information includes time variability information indicative of how the background noise parameter values vary over time.

16. (Canceled)

17. (Previously Presented) In a speech decoder that receives speech and noise information from a communication channel, an apparatus for producing comfort noise parameters for use in generating comfort noise, said apparatus comprising:

- a first input for providing a plurality of interpolated comfort noise parameter values normally used by the speech decoder to generate comfort noise;

- a second input for providing values of a background noise parameter from a receiver buffer;

- a variability estimator coupled to said second input and responsive to the background noise parameter values for calculating variability information, wherein said

variability estimator is responsive to a plurality of values of the background noise parameter for calculating a mean value of the background noise parameter over a period of time, wherein said variability estimator includes a variability determiner for producing variability information indicative of how the background noise parameter varies relative to said mean value of the background noise parameter, and is further operable to calculate differences between the mean value and at least some of the background noise parameter values to produce mean-removed values of the background noise parameter;

a modifier coupled to said first and second inputs and responsive to the variability information indicative of the variability of the mean-removed values of the background noise parameter to the mean value of the background noise parameter for perturbing the comfort noise parameter values to produce perturbed comfort noise parameter values; and

an output coupled to said modifier for selecting at least one of said perturbed comfort noise parameter values for use in generating perturbed comfort noise.

18-24. (Canceled)

25. (Previously Presented) The apparatus of Claim 17, wherein said variability information includes time variability information indicative of how the background noise parameter varies over time.

26. (Original) The apparatus of Claim 25, wherein said variability estimator includes a coefficient calculator responsive to a plurality of values of the background noise parameter for calculating filter coefficients, said time variability information including the filter coefficients.

27. (Original) The apparatus of Claim 26, wherein said filter coefficients are filter coefficients of an auto-regressive predictor filter.

28. (Original) The apparatus of Claim 26, including a filter coupled to said coefficient calculator for receiving therefrom said filter coefficients, and coupled to said mean variability determiner for filtering at least some of the mean-removed background noise parameter values according to said filter coefficients.

29. (Original) The apparatus of Claim 26, wherein said coefficient calculator is provided in the speech decoder.

30-31. (Canceled)

32. (Previously Presented) The method of Claim 38, wherein the step of calculating variability information includes combining the variability information for the background noise parameter values with the interpolated comfort noise parameter values on a frame basis.

33. (Previously Presented) The method of Claim 38, wherein the step of calculating variability information includes determining at least one variability factor from a group consisting of:

- time rate of change;
- variance from a mean value;
- maximum deviation from a mean value; and
- zero crossing rate.

34. (Currently Amended) The apparatus of Claim 17, wherein the ~~selection of said output is adapted to select the at least one perturbed comfort noise values is determined by the~~ parameter value based upon a sequential order of said buffered the background noise parameter values provided from the receiver buffer.

35. (Previously Presented) The apparatus of Claim 17, wherein said perturbed comfort noise values are selected randomly.

36. (Currently Amended) The apparatus of Claim 17, wherein the ~~frequency of selection of said output includes means for setting to a predetermined value, a frequency at which~~ perturbed comfort noise parameter values ~~can be set to a predetermined value~~ are selected.

37. (Previously Presented) The apparatus of Claim 17, wherein the modifier randomly selects one of the mean-removed values, scales the randomly selected mean-removed value by a scale factor to produce a scaled mean-removed value, and combines the scaled mean-removed value with one of the comfort noise parameter values to produce one of the perturbed comfort noise parameter values.

38. (New) In a method of generating comfort noise in a speech decoder, in which the speech decoder receives speech information and a plurality of comfort noise parameter values from an encoder via a communication channel, and the decoder interpolates the plurality of comfort noise parameter values and generates comfort noise from the interpolated comfort noise parameter values, an improvement comprising:

- obtaining by the speech decoder, background noise parameter values from a receiver buffer, said background noise parameter values representing actual background noise;

- calculating, at the speech decoder, a mean value of the background noise parameter values over a period of time;

- calculating, at the speech decoder, variability information indicative of how the background noise parameter values vary relative to the calculated mean value of the background noise parameter values;

- in response to the variability information, perturbing the interpolated comfort noise parameter values by the speech decoder to produce perturbed comfort noise parameter values; and

selecting by the speech decoder, at least some of the perturbed comfort noise parameter values for use in generating perturbed comfort noise.

**REMARKS/ARGUMENTS**

**1.) Claim Status**

Claims 2, 5-8, 12-15, 17, 25-29, and 32-38 are pending in the application. The Applicants have amended claims 34 and 36. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

**2.) Claim Rejections – 35 U.S.C. § 112**

In paragraph 2 of the Office Action, the Examiner rejected claims 34 and 36 under 35 U.S.C. § 112, second paragraph, for being indefinite. Regarding claim 34, the Examiner stated that the limitation “the sequential order of said buffered background noise parameter” lacks antecedent basis. The Applicants have amended claim 34 to recite:

34. The apparatus of Claim 17, wherein the output is adapted to select the at least one perturbed comfort noise parameter value based upon a sequential order of the background noise parameter values provided from the receiver buffer.

The Applicants respectfully submit that amended claim 34 has proper antecedent basis in base claim 17. Therefore, the withdrawal of the rejection and the allowance of amended claim 34 are respectfully requested.

Regarding claim 36, the Examiner stated that the limitation “the frequency of selection of said perturbed comfort noise parameter” lacks antecedent basis. The Applicants have amended claim 36 to recite:

36. The apparatus of Claim 17, wherein the output includes means for setting to a predetermined value, a frequency at which perturbed comfort noise parameter values are selected.

The Applicants respectfully submit that amended claim 36 has proper antecedent basis in base claim 17. Therefore, the withdrawal of the rejection and the allowance of amended claim 36 are respectfully requested.

**3.) Allowable Subject Matter**

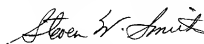
The Applicants gratefully acknowledge the allowance of claims 2, 5-8, 12-15, 17, 25-29, 32-33, 35, and 37-38. The Examiner included claim 1 in the allowed claims, but claim 1 was canceled in the Amendment filed March 11, 2005.

**CONCLUSION**

In view of the foregoing remarks, the Applicants believe all of the claims currently pending in the Application to be in condition for allowance. The Applicants, therefore, respectfully request that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 2, 5-8, 12-15, 17, 25-29, and 32-38.

The Applicants request a telephonic interview if the Examiner has any questions or requires any additional information that would expedite the prosecution of the Application.

Respectfully submitted,



Steven W. Smith  
Registration No. 36,684

Date: December 7, 2005

Ericsson Inc.  
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Plano, Texas 75024

(972) 583-1572  
steve.xl.smith@ericsson.com



FIG. 1  
PRIOR ART

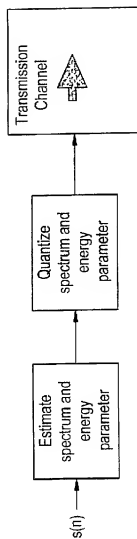
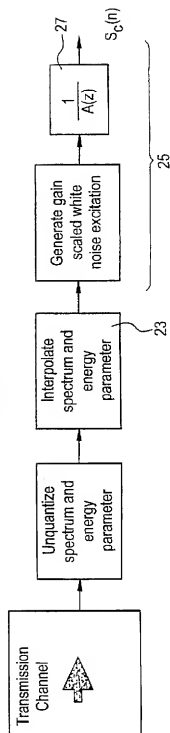


FIG. 2  
PRIOR ART



2 / 6

FIG. 3

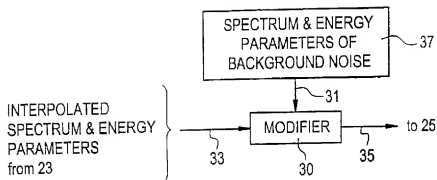


FIG. 4

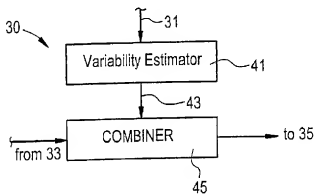


FIG. 5

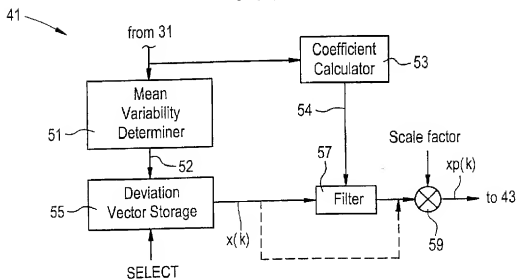


FIG. 5A

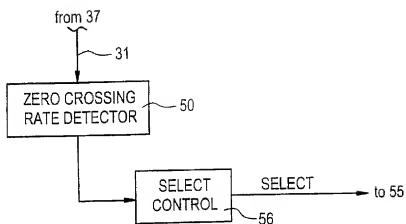


FIG. 6

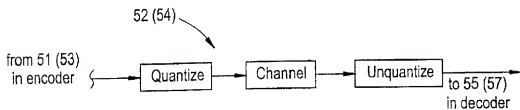
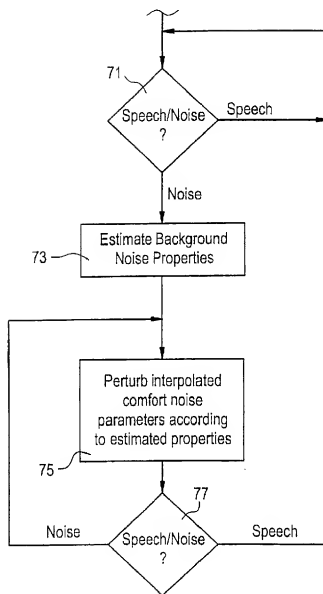


FIG. 7



5 / 6

FIG. 8

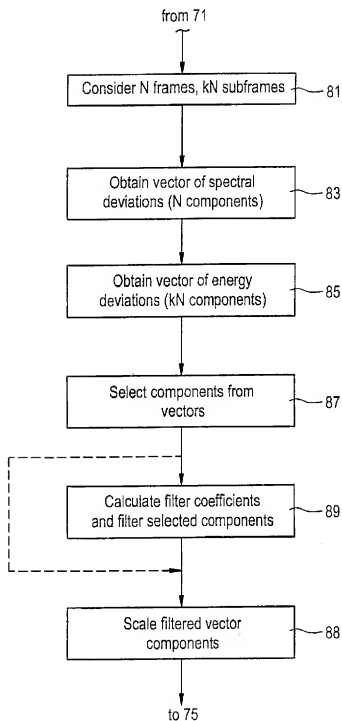


FIG. 9

